

Name: \_\_\_\_\_

# Scaling with Percents

Percents are ratios that compare an amount with 100. That means that 30% could represent 30 out of 100. If you have a ratio or fraction that is not out of 100, you can scale up or scale down to get the percent.

## Example:

There are 300 girls  
out of 500  
total people.  
What percent are girls?

Step 1: Write the ratio as a fraction.

\_\_\_\_\_

Step 3: Multiply or Divide the top and bottom by the same amount.

\_\_\_\_\_

Step 2: Decide what you can multiply or divide by to make the denominator equal 100.

\_\_\_\_\_

Step 4: Write the numerator as a percent.  
(Hint: Sometimes the scale factor may include a decimal or a fraction.)

\_\_\_\_\_

**Solve the following problems by scaling up or scaling down.**

1. Heather got 17 out of 20 questions right on a science quiz. What percent is her grade? \_\_\_\_\_
2. Mario has a math review packet to complete over winter break. There are 600 questions and Mario has completed 450. What percent of the packet is complete? \_\_\_\_\_
3. Each week, Xin has to read for 600 minutes. He has already read for 360 minutes. What percent of his reading has Xin finished? \_\_\_\_\_
4. In the cafeteria, Jocelyn notices that 560 of the 800 people are 6th graders. What percent of the people are in 6th grade? \_\_\_\_\_
5. Tre'von took a quick survey at the end of the school day to see how students get home from school. 3 of the 25 people said that they walk home. What percent walk home from school? \_\_\_\_\_
6. Sampreet is collecting the orders for lunch. Out of 250 orders, 100 of the students ordered a deli sandwich. What percent of the students ordered a deli sandwich? \_\_\_\_\_

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# Scaling with Percents

Percents are ratios that compare an amount with 100. That means that 30% could represent 30 out of 100. If you have a ratio or fraction that is not out of 100, you can scale up or scale down to get the percent.

## Example:

There are 300 girls  
out of 500  
total people.  
What percent are girls?

Step 1: Write the ratio as a fraction.

**300/500**

Step 2: Decide what you can multiply or divide by to make the denominator equal 100.

**Divide by 5**

Step 3: Multiply or Divide the top and bottom by the same amount.

**Step 3: 60/100**

Step 4: Write the numerator as a percent.  
(Hint: Sometimes the scale factor may include a decimal or a fraction.)

**60%**

**Solve the following problems by scaling up or scaling down.**

1. Heather got 17 out of 20 questions right on a science quiz. What percent is her grade? **85%**
2. Mario has a math review packet to complete over winter break. There are 600 questions and Mario has completed 450. What percent of the packet is complete? **75%**
3. Each week, Xin has to read for 600 minutes. He has already read for 360 minutes. What percent of his reading has Xin finished? **60%**
4. In the cafeteria, Jocelyn notices that 560 of the 800 people are 6th graders. What percent of the people are in 6th grade? **70%**
5. Tre'von took a quick survey at the end of the school day to see how students get home from school. 3 of the 25 people said that they walk home. What percent walk home from school? **12%**
6. Sampreet is collecting the orders for lunch. Out of 250 orders, 100 of the students ordered a deli sandwich. What percent of the students ordered a deli sandwich? **40%**